US007017940B2

(12) **United States Patent**
Hatfull

(10) **Patent No.: US 7,017,940 B2**
(45) **Date of Patent: Mar. 28, 2006**

(54) **BOARD CARRIER**

(76) Inventor: **Mark Hatfull**, 8 Wunnunga Crescent, Coolum, Queensland 4573 (AU)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 68 days.

(21) Appl. No.: **10/502,852**

(22) PCT Filed: **Feb. 5, 2002**

(86) PCT No.: **PCT/AU03/00112**

§ 371 (c)(1),
(2), (4) Date: **Jan. 13, 2005**

(87) PCT Pub. No.: **WO03/066409**

PCT Pub. Date: **Aug. 14, 2003**

(65) **Prior Publication Data**

US 2005/0116445 A1 Jun. 2, 2005

(51) **Int. Cl.**
B62B 1/00 (2006.01)

(52) **U.S. Cl.** **280/652**; 280/63; 280/79.7; 280/79.3; 280/656

(58) **Field of Classification Search** 280/47.131, 280/79.71, 47.2, 47.28, 47.35; 414/446, 414/490
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,913,762	A	*	10/1975	Alexander	414/490
4,050,671	A		9/1977	Coleman	
5,244,221	A		9/1993	Ward	
5,375,277	A	*	12/1994	Carr et al.	5/625
5,857,695	A		1/1999	Crowell	
D424,266	S	*	5/2000	McIntyre	D34/24

FOREIGN PATENT DOCUMENTS

CA	2258380	7/1999
CH	670605	6/1989
FR	2735741	12/1996

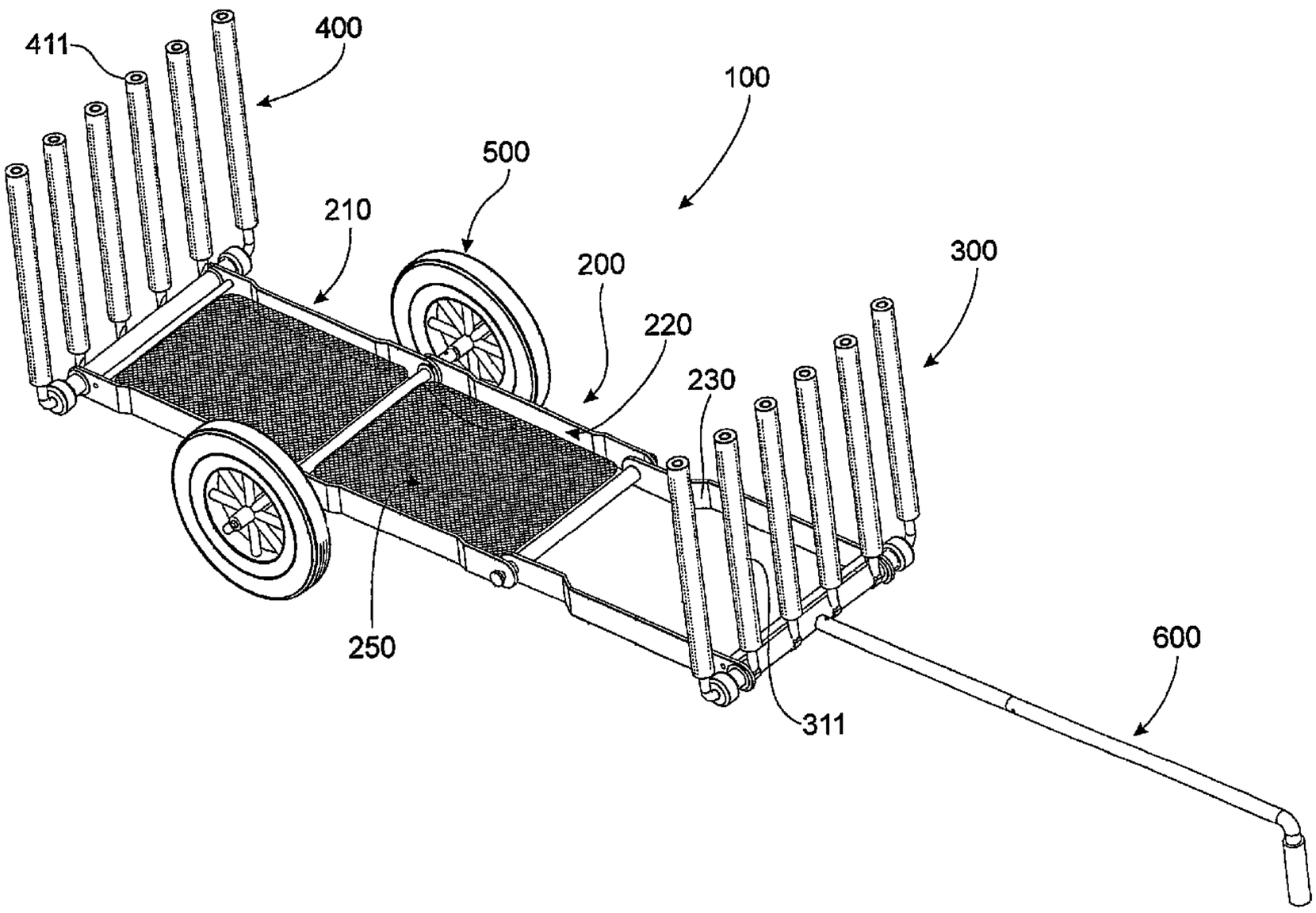
* cited by examiner

Primary Examiner—Bryan Fischmann
Assistant Examiner—Cynthia F. Collado
(74) *Attorney, Agent, or Firm*—Stites & Harbison, PLLC; David W. Nagle, Jr.

(57) **ABSTRACT**

A board carrier (**100**) comprising a holder (**300**, **400**) for holding a plurality of boards; a body (**200**) mounting said holder (**300**, **400**); a plurality of wheels (**500**) attached to the body (**200**) for contact with a ground surface; and a handle (**600**) associated with the body (**200**) to move said carrier (**100**); wherein the body (**200**) is formed from at least two sections (**210**, **220**, **230**), the sections (**210**, **220**, **230**) pivotally connected to each other.

14 Claims, 7 Drawing Sheets



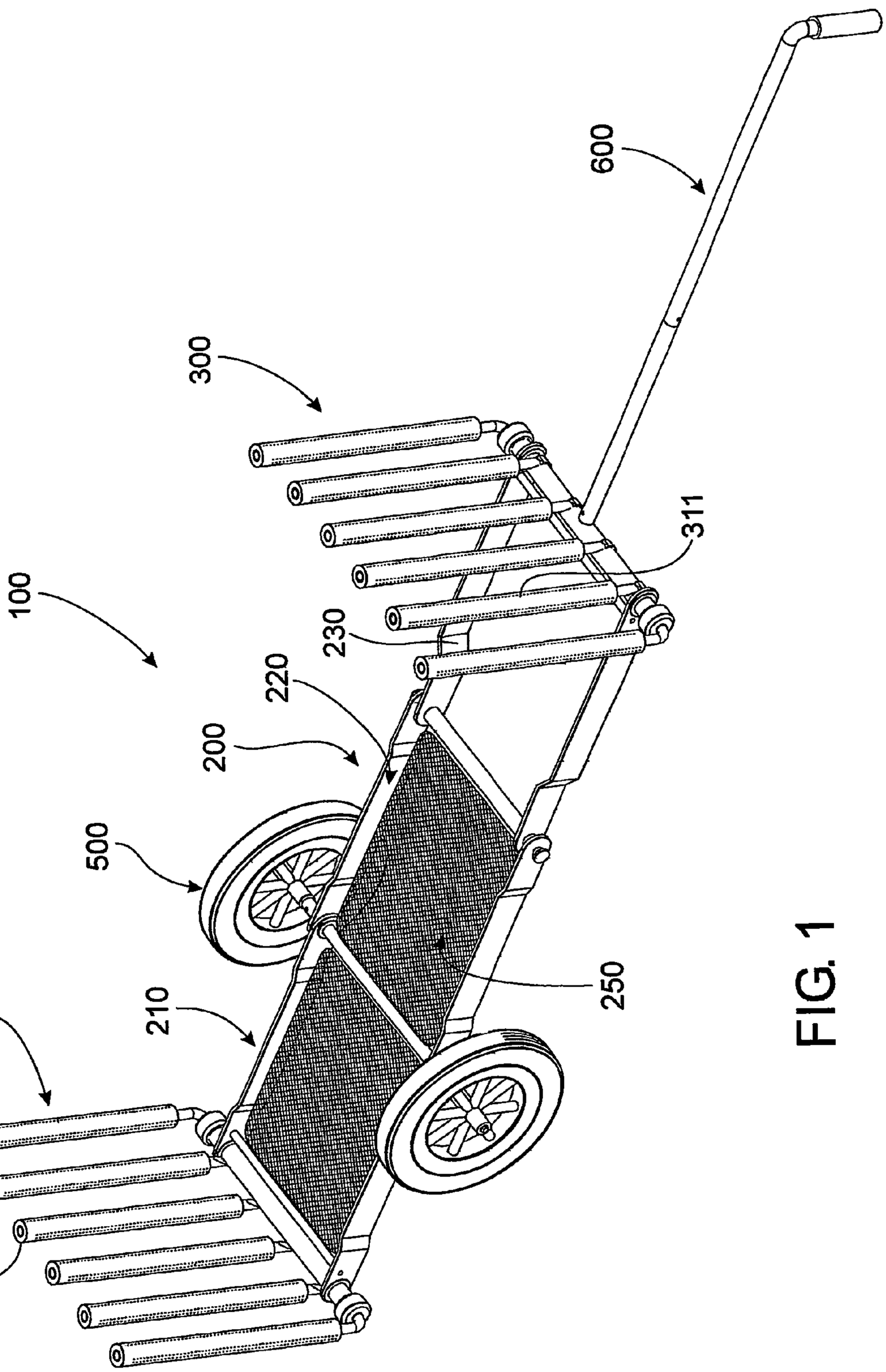


FIG. 1

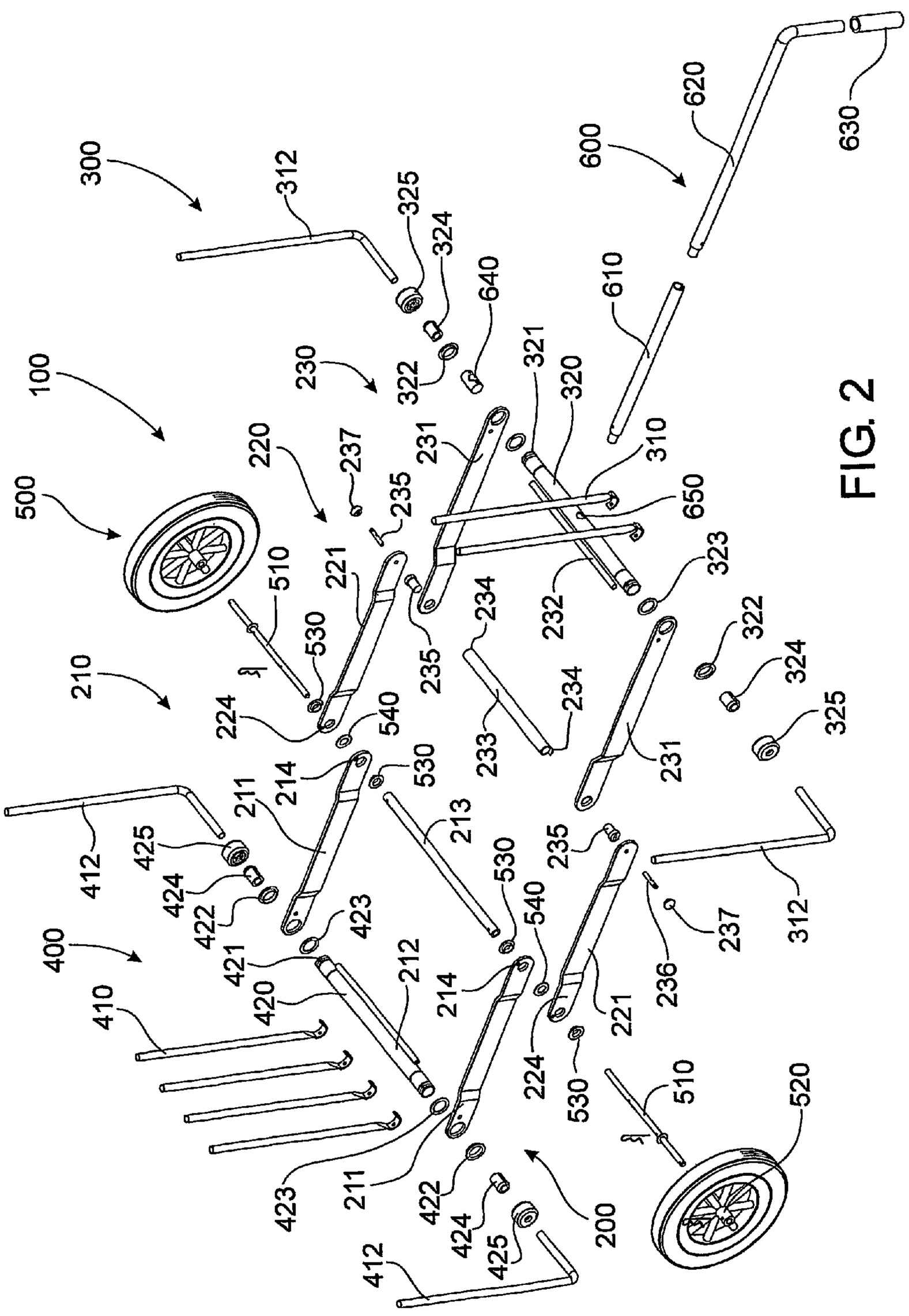

300
312
325
324
640
322
230
600
620
630
610
321
320
310
650
323
232
234
233
231
322
324
325
100
500
220
237
235
231
510
221
530
224
540
210
214
211
213
530
235
530
540
423
421
212
214
420
410
423
422
424
425
412
400
200
520
510
530
224
221
236
237
312

FIG. 2

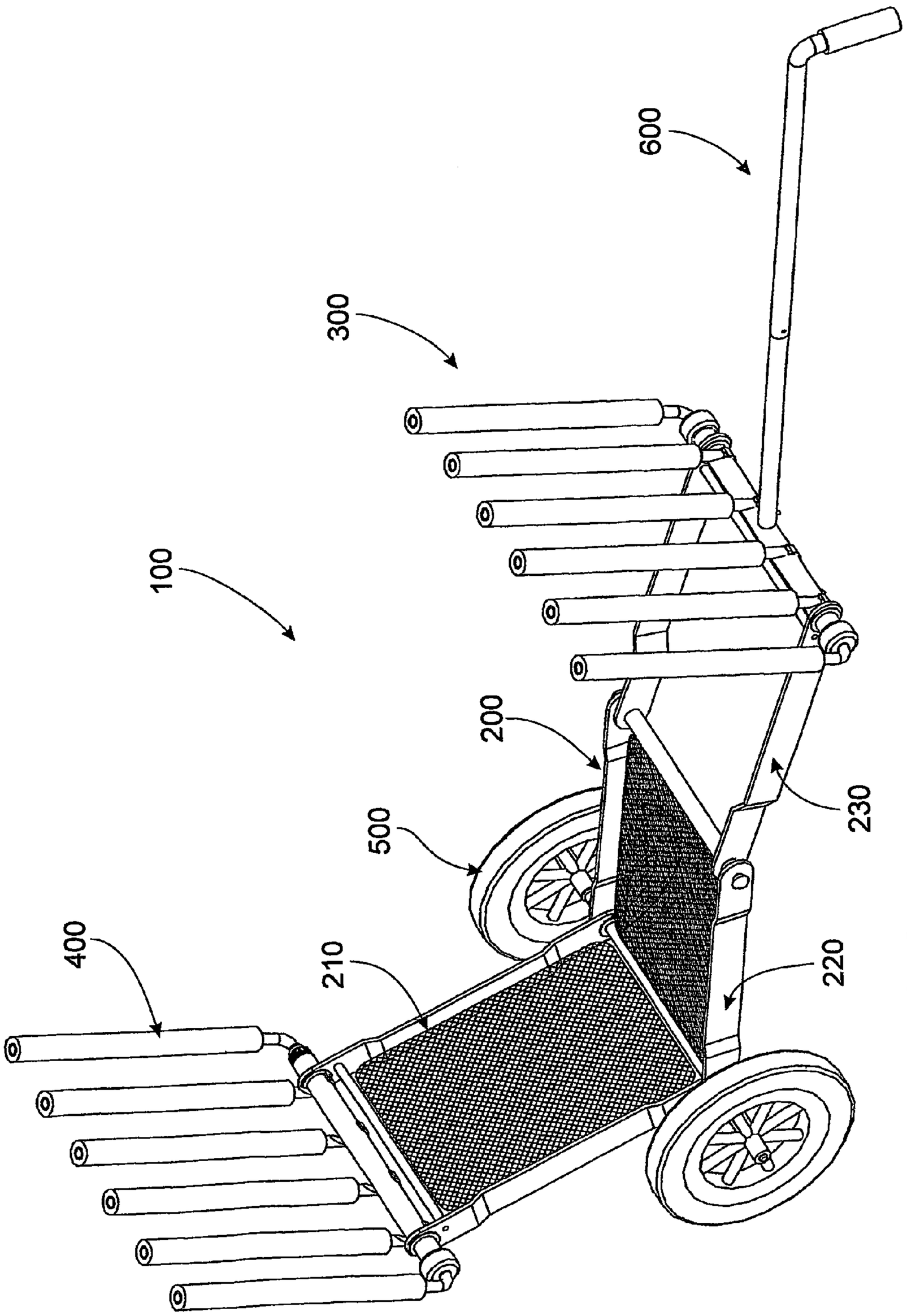


FIG. 3

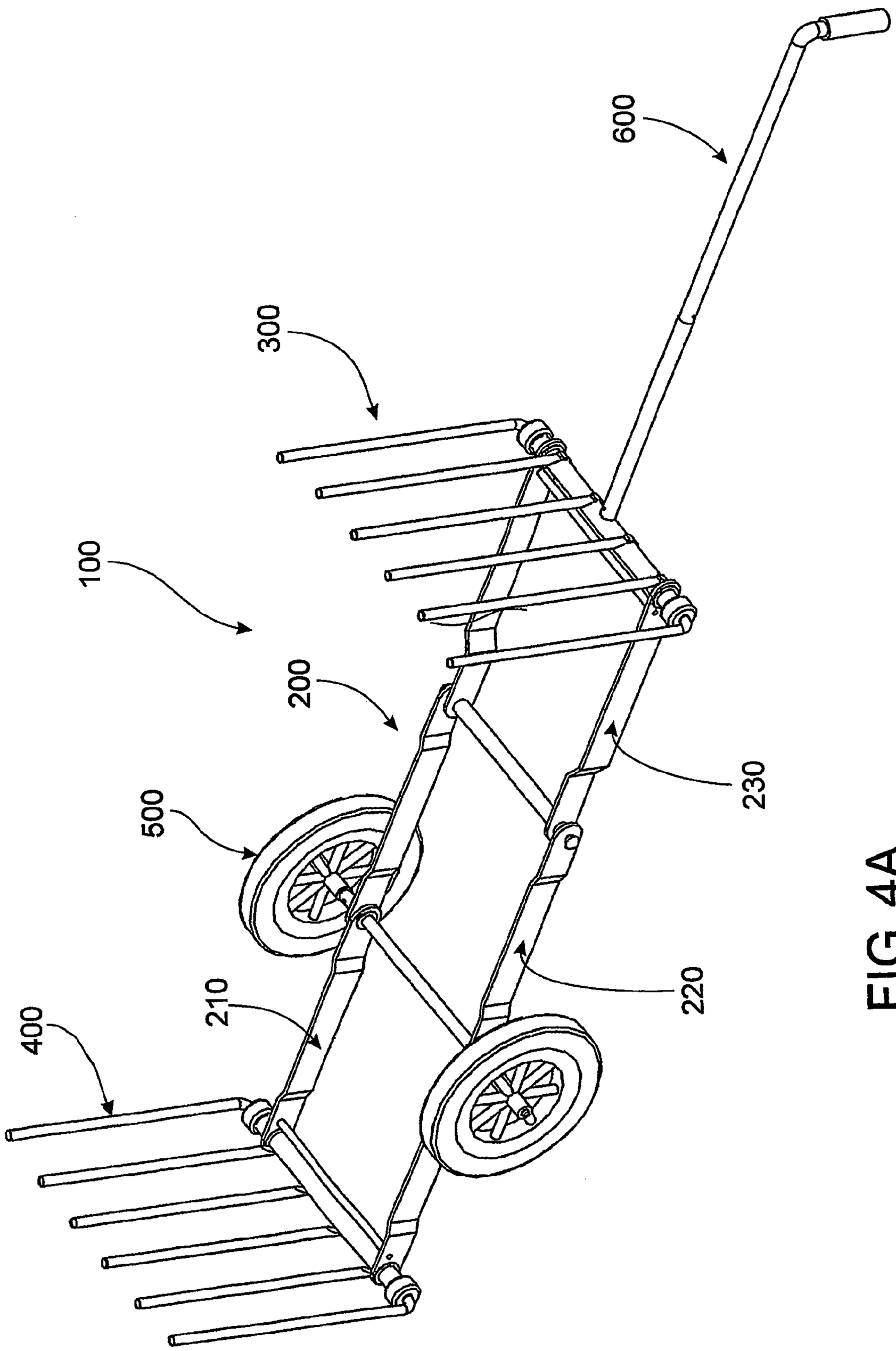


FIG. 4A

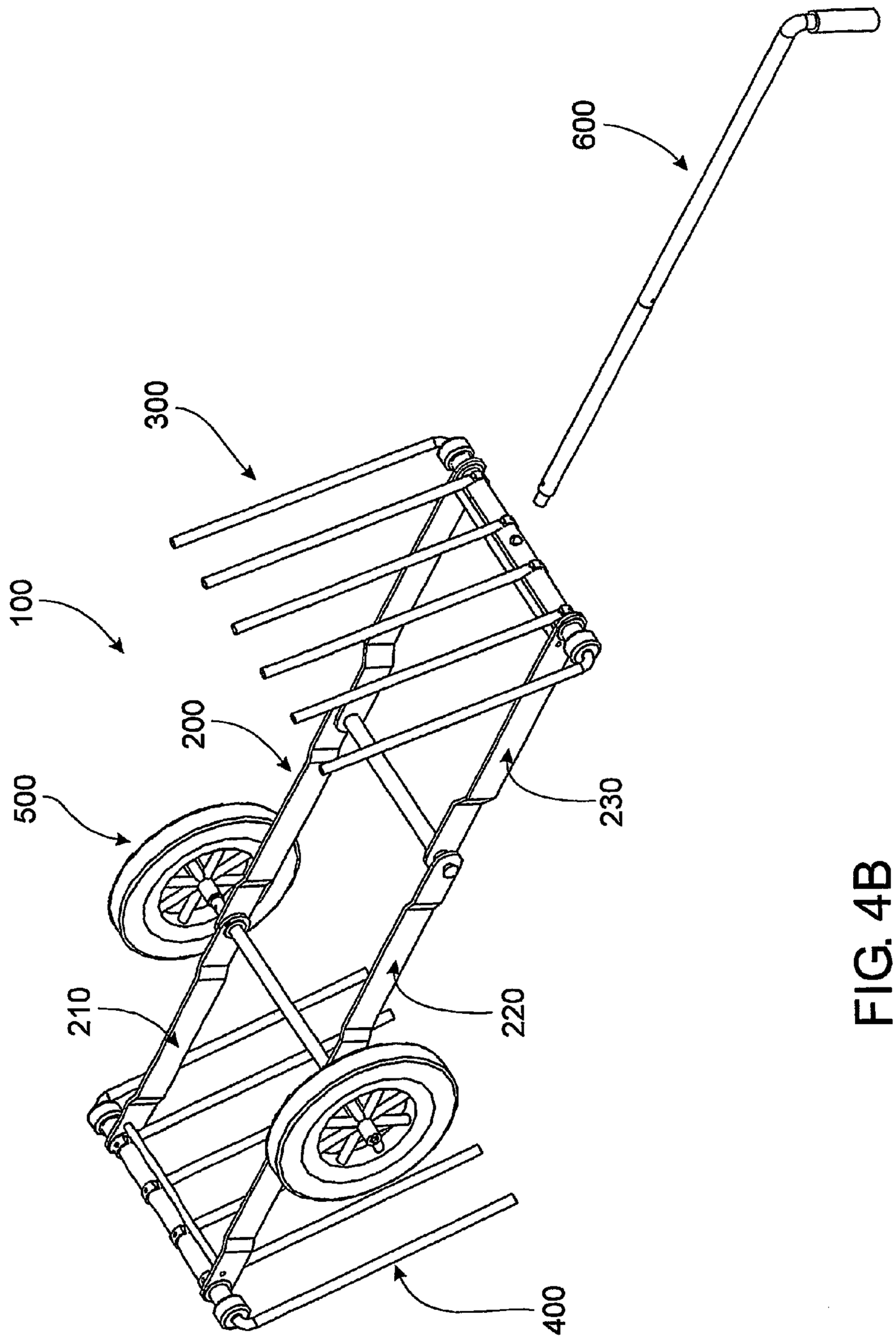


FIG. 4B

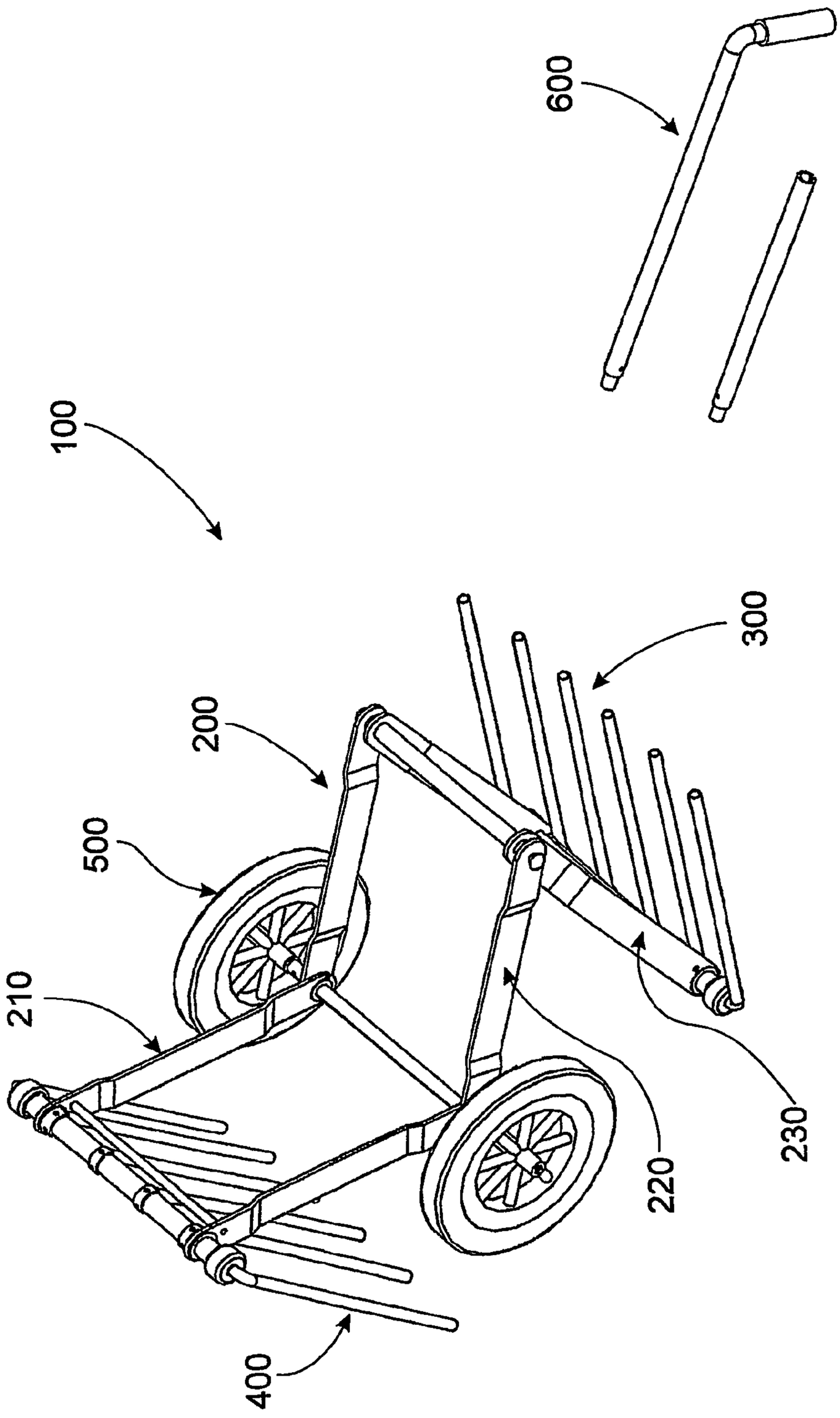


FIG. 4C

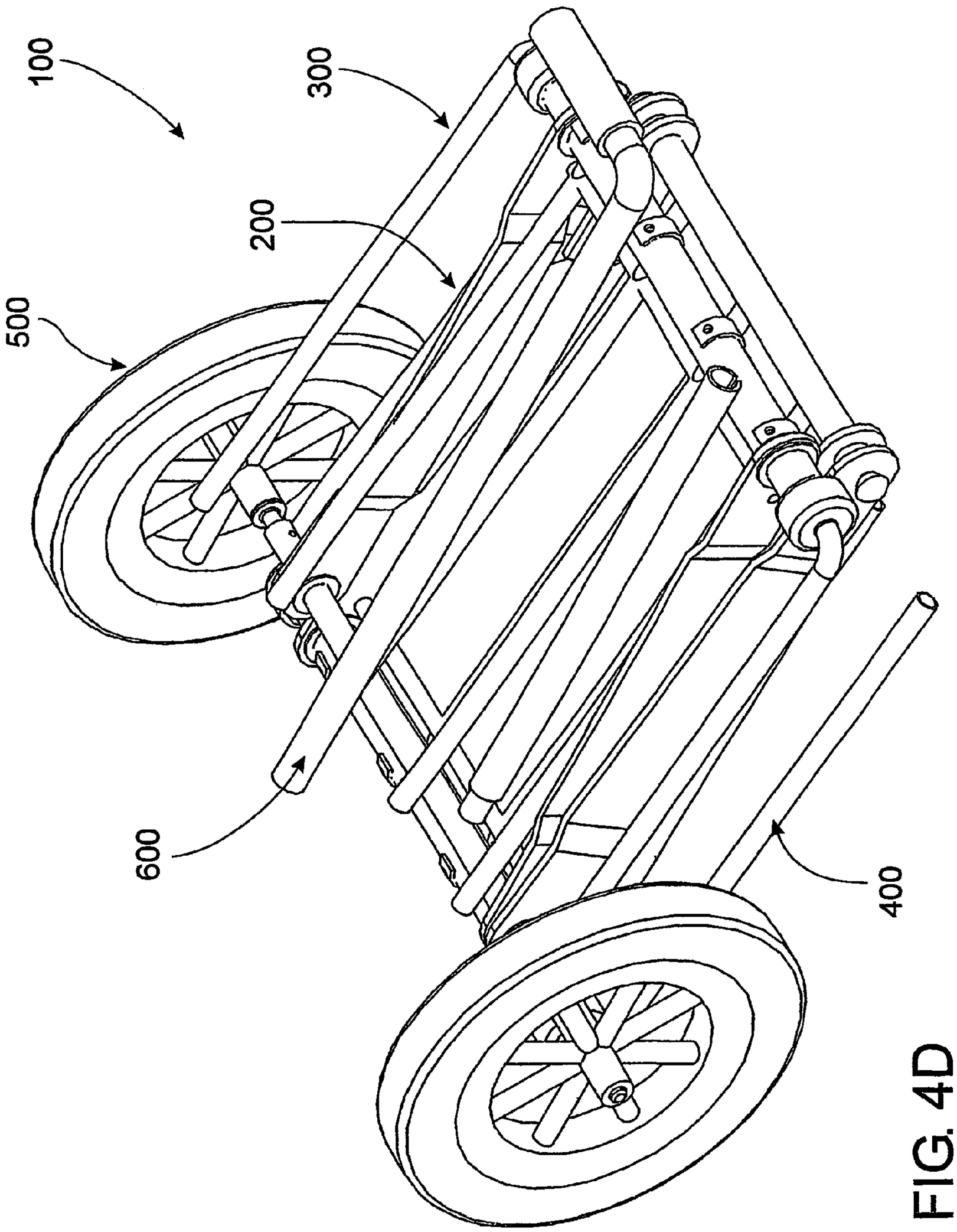


FIG. 4D

BOARD CARRIER

FIELD OF THE INVENTION

THIS INVENTION relates to a board carrier. In particular, the invention relates to a board carrier that is able to carry a plurality of surfboards or the like and can be stored easily.

BACKGROUND OF THE INVENTION

The beach is a popular place of rest and recreation for many different groups of people including families. Due to the increasing popularity of surfing, many families have two or more family members that surf. Subsequently, when a family attends the beach, there are usually at least two boards that must be transported to the beach.

Most families travel to the beach using a motor vehicle that carries the boards. Once at the beach, the boards are normally taken from the vehicle and carried to the beach. A least one arm is required to carry a board, limiting the number of items that can be carried in a single trip to the beach from a vehicle. This causes a person to make multiple trips from the vehicle to the beach and back again to transport all of the necessary items.

Various types of carriers have been developed that may be suitable for carrying boards. For example, FR 2735741-A1, U.S. Pat. No. 5,244,221, CA 2258380 and CH 670 695 disclose handling trolleys that may be able to carry boards. However, these type of board carries are large and unable to be transported easily within a motor vehicle. Further, the handling trolleys are not conducive to operation on a beach.

OBJECT OF THE INVENTION

It is an object of the invention to overcome or alleviate one or more of the above disadvantages and/or provide the consumer with a useful or commercial choice.

SUMMARY OF THE INVENTION

Accordingly, in one form, although not necessarily the only or broadest form, the invention resides in a board carrier comprising:

a holder for holding a plurality of boards;

a body mounting said holder;

a plurality of wheels attached to the body for contact with a ground surface; and

a handle associated with the body to move said carrier;

wherein the body is formed from at least two sections, the sections pivotally connected to each other.

It should be appreciated that the term "board" may incorporate surfboards, body boards or the like wave riding and/or floatation devices.

The board carrier may be foldable. Preferably, the board carrier can carry at least five boards. The board carrier may be constructed from rust resistant material.

The holder may include two racks. The respective racks may be positioned adjacent opposing ends of the body. The racks may be pivotally mounted to the body. Each rack may include a plurality of fingers that extend outwardly from the body. The width between adjacent fingers may be varied. Each rack may be located on different sections.

The body may include a storage area to hold items. Alternately, the body may include a seat or baby capsule.

Preferably there are three sections that are pivotally connected to each other.

Preferably, there are two wheels. The wheels may be removably attached to the body. Preferably, the wheels are attached to the body so that the board carrier can be pivoted easily with respect to the ground surface.

Preferably, the wheels are attached adjacent where sections of the body are pivotally connected.

The handle may be attached to the body. The handle may be pivotally attached to the body. The handle may be telescopic to lengthen and/or shorten the handle as is required.

Alternatively, the handle may form part of the body.

BRIEF DESCRIPTION OF THE DRAWINGS

An embodiment of the invention will be described with reference to the accompany drawings in which:

FIG. **1** is a perspective view of a board carrier according to an embodiment of the invention;

FIG. **2** is an exploded view of the board carrier of FIG. **1**;

FIG. **3** is a further perspective view of the board carrier of FIG. **1**;

FIG. **4**A is a side view of the board carrier in an extended position;

FIG. **4**B is a side view of the board carrier in a semi-folded position;

FIG. **4**C is a side view of the board carrier in a further semi-folded;

FIG. **4**D is a side view of the board carrier in a folded position.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to FIG. **1** to **3**, a board carrier **100** is shown having a body **200**, a forward rack **300**, a rear rack **400**, two wheels **500** and a handle **600**.

The body **200** includes a rear section **210**, a forward section **220** and an extension section **230**. The rear section **210** is pivotally mounted to the forward section **220** and the forward section **220** is pivotally mounted to the extension section **230**.

The rear section **210** is formed from two rear side frames **211** that are spaced apart by a rear spacer **212**. The front section **220** is formed from two front side frames **221**. The extension section **230** is formed from two side extension frames **231** that are spaced apart by an extension spacer **232**.

A central shaft **213** spaces and allows the front section **210** to pivot relative the rear section **220**. Holes **214** and **224** located in respective front and rear frames **211** and **221** are used to locate a locking pin (not shown) through the frames **211** and **221** to lock the frames **211** and **221** together.

The central shaft **213** is also used to attach the wheels **500** to the carrier **100**. The wheels **500** are mounted to axles **510** that are mounted to the central shaft **213**. The axles **510** are attached to the wheels **500** using retaining pins **520**. The axles **510** are located through the frames **211** and **221** using centre spacer **530** and centre bushes **540**. The axles **510** are also located within the centre shaft **213** and mounted to the centre shaft **213** using clips (not shown).

The wheels **500** are normally golf buggy wheels and can be constructed from rigid material, such as rubber, or may be inflatable tyres

An extension shaft **233** spaces and allows the front section **210** to pivot relative the extension section **230**. Extension shaft stops **234** forms ends of the extension shaft **233**. The extension shaft **233** is mounted to the front frames **221** and extension frames **231** using locking bushes **235**, locking

bush pins **236**, and release buttons **237**. The locking bushes **235** are located through the extension frames **231** and fixed to the end of the extension shaft **234**. The locking pins **236** are connected to the release buttons **237** and are placed through the side frames **221** and fixed to the locking bushes **235**.

The extension shaft stops **234** prevent the front side frames **221** and extension side frames **233** rotating past each other as both frames **221** and **231** engage the extension shaft stops **234**.

Webbing **250** extends over the rear section **210** and forward section **220** to form a seat. The seat can be used to accommodate a small child or carry beach items, such as wetsuits, bags, towels and the like. Alternatively, a baby capsule may be attached to and located between the rear section **210** and forward section **220**.

The forward rack **300** is located adjacent the end of the extension section **230** whilst the rear rack **400** is located adjacent an end of the rear section **210**. Each rack **300** and **400** is formed from a number of fingers **310** and **410** that extend from a transverse bar **320** and **420**. The fingers **310** and **410** of each rack **300** and **400** are substantially parallel to one another. A foam sleeve **311** and **411** is located around each of the fingers to prevent the boards from being damaged. Two outer fingers **312** and **412** are also form part of the racks **300** and **400**.

The transverse bars **320** and **420** have threaded ends **321** and **421** respectively. The threaded ends **321** and **421** are passed through respective frames **231** and **211**. Bushes **322** and **422** and washers **323** and **423** are located adjacent respective threaded ends **321** and **421**. Split clamps **324** and **424** are located within the locking nuts **325** and **425**. Ends of outer fingers **312** and **412** are located through the locking nuts **325** and **425** and split clamps **324** and **424**. By screwing the locking nuts **325** and **425** onto the threaded ends **321** and **421**, this causes the split clamps **324** and **424** to hold the outer fingers **312** and **412** in position. Further, the locking nuts **325** and **425** also hold the transverse bars **320** and **420** relative to the frames **231** and **211**.

The handle **600** comprises a handle grip **630**, a handle shaft **620** and an handle extension shaft **610**. The handle extension shaft **610**, handle shaft **620** and handle extension shaft **610** are attached using suitable fasteners (not shown). The end of the extension shaft **630** is threaded and fits into a handle nut **640** that is located with the transverse bar **320**. A hole **650** allows the handle extension shaft **610** to be passed through the transverse bar **320** to screw the handle extension shaft **610** onto the handle nut **640**.

The central shaft **213** is located so that when boards (not shown) are placed on the board carrier **100**, minimal force is required to push the handle **600** downwardly to enable the board carrier **100** to be moved via the wheels **500**.

The board carrier **100** shown in this embodiment can carry up to five boards **100**. However, it should be appreciated that the number of fingers **310** and **410** can be varied to carry more or less boards, as is required.

FIG. **3** shows the board carrier **100** where the rack **400** has been adjusted to a different angle with respect to the rear section **210**. The rear section **210** has also been adjusted by locating the locking pin in a different hole **214** on the rear frame **211**.

Referring to FIGS. **4**A to **4**D, the board carrier **100** can be folded so that it can be packed into a bag or located within a vehicle without occupying a substantial amount of space.

The board carrier **100** is folded from an extended position shown in FIG. **4**A to a folded position shown in FIG. **4**D. This board carries is folded by unscrewing the handle extension shaft **610** from the handle nut **640** to remove the handle **600** from the transverse bar **320**. The handle shaft **620** and handle extension shaft **610** can then be separated from each other.

The locking nuts **325** and **425** can be partially unscrewed from the transverse bars **320** and **420** to allow the transverse bars **320** and **420** to be rotated relative to extension section **230** and the rear section **210**. The locking pins are removed from the rear side frames **211** and front side frames **221** to allow the rear side frames **211** and the front side frames **221** to pivot with respect to each other.

The rear section **210**, front section **220**, extension section **230**, front rack **300** and rear rack **400** are now able to pivot so that they are able to collapse on each other as shown in FIG. **4**D. If desired, the wheels **500** can be removed by releasing the retaining pins.

The board carrier **10** can be easily located within a bag of commensurate size or located within a vehicle. The board carrier enables multiple boards and beach items to be carried easily to the beach. It eliminates the need for multiple trips to be conducted and can be operated by a single hand.

It should be appreciated that the board carrier **100** may be modified so that it may be attached to a bicycle so that it may be towed.

It should be appreciated that various other changes and modifications may be made to the embodiment described without departing from the spirit or scope of the invention.

What is claimed is:

1. A board carrier comprising:

a holder, including two racks, for holding a plurality of boards;

a body mounting said holder, the body being formed from at least two sections, the sections pivotally connected to each other;

a plurality of wheels attached to the body for contact with a ground surface; and

a handle associated with the body to move said carrier;

wherein each rack includes a plurality of fingers that extend outwardly from the body.

2. The board carrier of claim **1** wherein the respective racks are positioned adjacent opposing ends of the body.

3. The board carrier of claim **2** wherein the racks are pivotally mounted to the body.

4. The board carrier of claim **1** wherein the width between adjacent fingers is variable.

5. The board carrier of claim **1** wherein each rack is located on different sections.

6. The board carrier of claim **1** wherein the body includes a storage area.

7. The board carrier of claim **1** wherein the body includes a seat or baby capsule.

8. The board carrier of claim **1** wherein there are three sections that are pivotally connected to each other.

9. The board carrier of claim **1** wherein the wheels are removably attached to the body.

10. The board carrier of claim **1** wherein the wheels are attached adjacent where sections of the body are pivotally connected.

11. The board carrier of claim **1** wherein the handle is attached to the body.

12. The board carrier of claim **1** wherein the handle is pivotally attached to the body.

13. The board carrier of claim **1** wherein the handle is telescopic.

14. The board carrier of claim **1** wherein the board carrier the board carrier may be constructed from rust resistant material.

* * * * *

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 7,017,940 B2
APPLICATION NO. : 10/502852
DATED : March 28, 2006
INVENTOR(S) : Mark Hatfull

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On the Title Page:

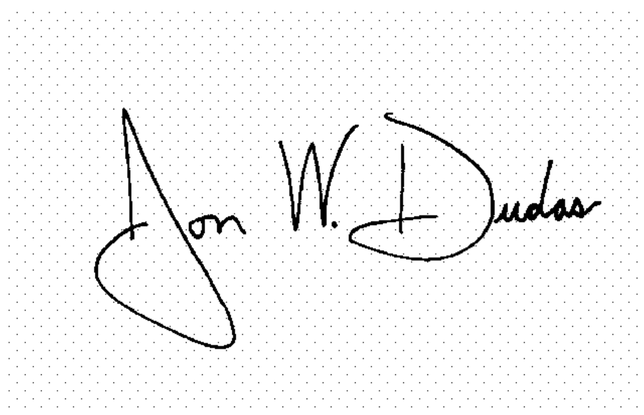
Item (22) Change PCT filing date to read: Feb. 5, 2003

Add Item (30) Foreign Application Priority Data to show the following:

(30) Foreign Application Priority Data
Feb. 5, 2002 (AU)..... AU2002PS00315

Signed and Sealed this

Fifth Day of September, 2006



JON W. DUDAS
Director of the United States Patent and Trademark Office